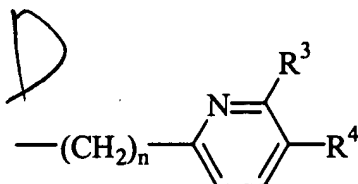


1 23. (Amended) The integrated circuit according to claim 21, wherein R² has the
2 following structure:



3 and wherein R³ and R⁴ are hydrogen and n is 2.

Remarks

This Amendment is responsive to the Office Action mailed on May 16, 2002. Changes to the dependencies of the claims are made in this Amendment, and Applicants have also canceled method claims 1-11. Applicants reserve the right to file a divisional application directed to the non-elected subject matter.

In the Office Action mailed May 16, 2002, the Examiner restricts the claims into two Groups, Group I (claims 1-11) and Group II (claims 12-23). On page 3 of the Office Action, in an election of species requirement, the Examiner further requires that Applicants elect either benzene derivatives or pyridine derivatives for examination.

Applicants elect the Group II claims for examination, and elect the pyridine derivatives as a species. Claims 12, 13, 15, 17, 18, 19, 21, and 23 would be readable on the elected species.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



Patrick R. Jewik
Reg. No. 40,456

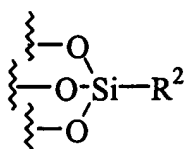
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VERSION WITH MARKINGS SHOWING CHANGES MADE

Claims 1-11 are canceled.

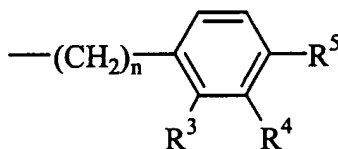
12. (Unamended) A diffusion barrier layer in an integrated circuit, wherein the diffusion barrier comprises a self-assembled monolayer.

13. (Amended) The diffusion barrier according to claim [11]12, wherein the self-assembled monolayer comprises subunits, and wherein the subunits are of the following structure:



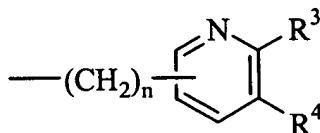
wherein R² is an alkyl group, heteroalkyl group, aryl group or heteroaryl group.

14. (Amended) The diffusion barrier according to claim [12]13, wherein R² includes an alkyl and an aryl group and has [an alkyl group of] the following structure:



wherein R³, R⁴ and R⁵ are independently selected from the group consisting of hydrogen, alkyl groups, heteroalkyl groups, halo groups, NH₂, NHR⁶, NR⁶R⁷, OH, OR⁶, SH, SR⁶, CHO, COOH and CN, and wherein R⁶ and R⁷ are alkyl groups, and wherein n is an integer ranging from 1 to 5.

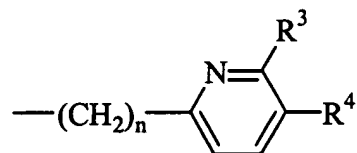
15. (Amended) The diffusion barrier according to claim [12]13, wherein R² [is an alkyl group of] has the following structure:



wherein R^3 and R^4 are independently selected from the group consisting of hydrogen, alkyl groups, heteroalkyl groups, halo groups, NH_2 , NHR^6 , NR^6R^7 , OH, OR^6 , SH, SR^6 , CHO, COOH and CN, and wherein R^6 and R^7 are alkyl groups, and wherein n is an integer ranging from 1 to 5.

16. (Amended) The diffusion barrier according to claim [13]14, wherein R^3 , R^4 and R^5 are hydrogen and n is 2.

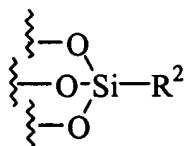
17. (Amended) The diffusion barrier according to claim [14]15, wherein R^2 [is an alkyl group of] has the following structure:



and wherein R^3 and R^4 are hydrogen and n is 2.

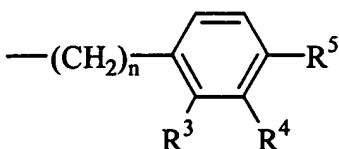
18. (Unamended) An integrated circuit comprising a silicon substrate, a diffusion barrier layer and a metal deposited on the diffusion barrier layer, wherein the diffusion barrier is covalently attached to the silicon substrate, and wherein the diffusion barrier is a self-assembled monolayer.

19. (Amended) The integrated circuit according to claim [17]18, wherein the self-assembled monolayer comprises subunits of the following structure:



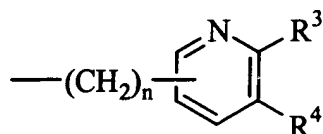
wherein R^2 is an alkyl group, heteroalkyl group, aryl group or heteroaryl group.

20. (Amended) The integrated circuit according to claim [18]19, wherein R^2 has [is an alkyl group of] the following structure:



wherein R^3 , R^4 and R^5 are independently selected from the group consisting of hydrogen, alkyl groups, heteroalkyl groups, halo groups, NH_2 , NHR^6 , NR^6R^7 , OH , OR^6 , SH , SR^6 , CHO , $COOH$ and CN , and wherein R^6 and R^7 are alkyl groups, and wherein n is an integer ranging from 1 to 5.

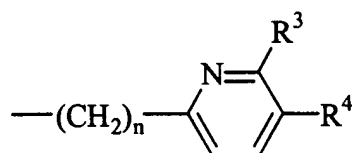
21. (Amended) The integrated circuit according to claim [18]19, wherein R^2 [is an alkyl group of] has the following structure:



wherein R^3 and R^4 are independently selected from the group consisting of hydrogen, alkyl groups, heteroalkyl groups, halo groups, NH_2 , NHR^6 , NR^6R^7 , OH , OR^6 , SH , SR^6 , CHO , $COOH$ and CN , and wherein R^6 and R^7 are alkyl groups, and wherein n is an integer ranging from 1 to 5.

22. (Amended) The integrated circuit according to claim [19]20, wherein R^3 , R^4 and R^5 are hydrogen and n is 2.

23. (Amended) The integrated circuit according to claim [20]21, wherein R^2 [is an alkyl group of] has the following structure:



and wherein R^3 and R^4 are hydrogen and n is 2.